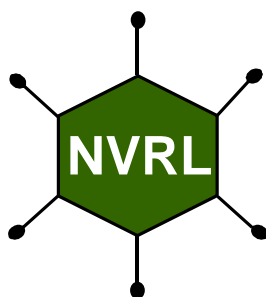


Weekly Influenza Surveillance Report



Week 51 2003

Report produced: 23/12/2003

This report is produced in collaboration with the Departments of Public Health

Summary

GP consultation rates for influenza-like illness (ILI) in Ireland decreased further during week 51. There were no increases in ILI rates in any age groups. Influenza A remains the predominant influenza type circulating. Although, the early influenza activity associated with A/Fujian-like strains in Ireland has declined, it is too early to predict whether there will be a second wave of activity caused by other influenza strains.

Clinical data

During week 51 2003 (the week ending the 21st of December 2003), 20 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 22.0 per 100,000 population, a further decrease from 33.1 per 100,000 in week 50 (figure 1). Twenty-eight of the sentinel general practices reported during week 51, with 9 reporting ILI.

During week 51, the highest ILI rates per 100,000 population were in the 15-64 year age group (figure 2). ILI rates in all age groups during week 51 either decreased or remained constant. It is important to note that the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

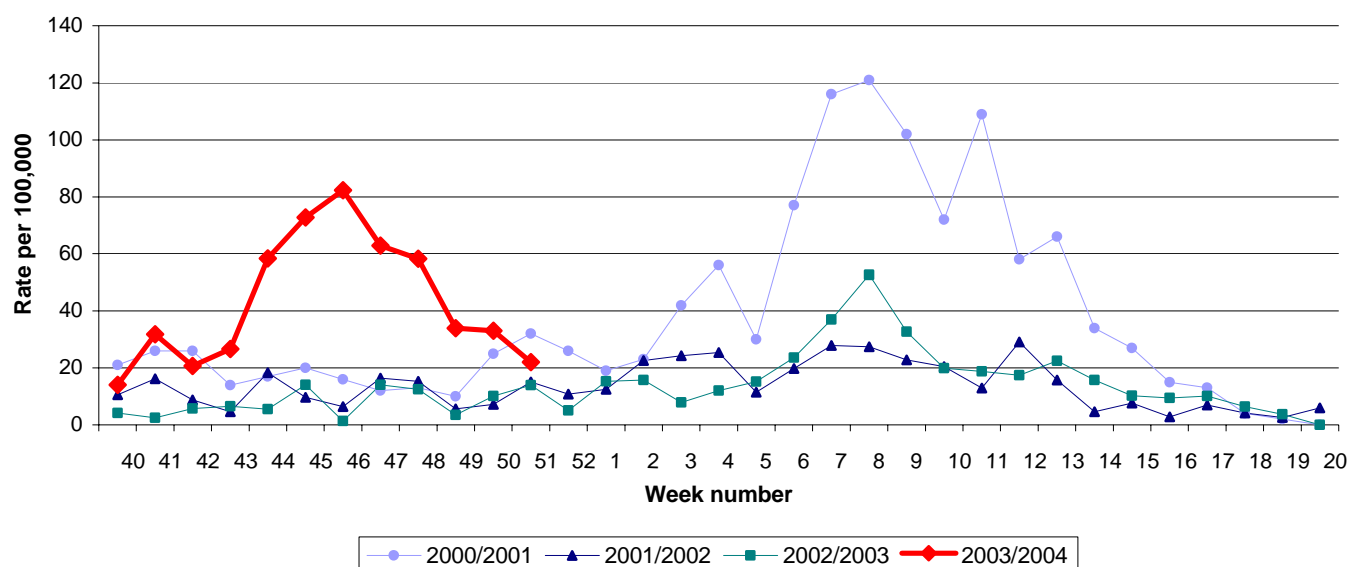


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

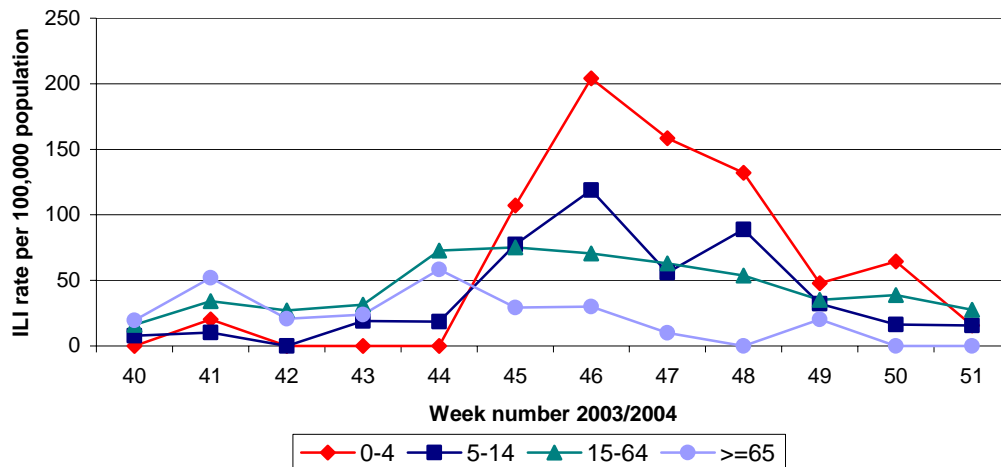


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.*

Virological data from the National Virus Reference Laboratory

During week 51, the National Virus Reference Laboratory (NVRL) received 12 swabs from sentinel GPs (table 1). Six swabs were positive for influenza A and one for influenza B. The total number of positive influenza swabs from sentinel GPs for the 2003/2004 season to date is 138: 80 influenza A (unsubtyped), 51 influenza A (H3N2) and 7 influenza B viruses.

The NVRL also tested 69 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 51, 6 were positive for influenza A, 2 for influenza B and 23 for respiratory syncytial (RSV) virus. RSV outbreaks typically occur in the winter months with peak numbers of infections usually reported in December and January every year, though the size of the peak varies from winter to winter. It is therefore not unexpected that RSV positive specimens have increased in December. Between weeks 40 and 51 2003, a total of 758 respiratory non-sentinel specimens have been tested by the NVRL, 83 were positive for influenza A, 13 for influenza B, 88 RSV, 1 adenovirus, 4 parainfluenza virus (PIV) type-1, 3 PIV-2 and 5 PIV-3. Of the 83 influenza A positive non-sentinel specimens detected this season, 60 cases were in the 0 to 4 year age group, 4 were 5-14, 18 were 15-64 and one was aged 65 years or older.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 234: 214 influenza A and 20 influenza B (table 2). The majority of influenza positive cases this season have been in younger age groups, with 71 cases in the 0 to 4 year age group and 27 aged 5-14. Detection of influenza in younger age groups is not unexpected as there has been very little influenza in circulation for the last few seasons, therefore the opportunity for development of immunity has been limited. One hundred and thirty-one influenza positive specimens this season were in cases aged between 15 and 64 years of age, 4 cases were 65 years or older and 1 case was of unknown age group.

Table 1: Total number of sentinel specimens tested for influenza by week and positive results by type, subtype and report week for the 2003/2004-influenza season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (unsubtyped)	Influenza A (H3N2)	Influenza B
40	9	0	0.0	0	0	0
41	12	4	33.3	0	4	0
42	14	7	50.0	1	6	0
43	10	4	40.0	1	3	0
44	37	25	67.6	4	20	1
45	48	27	56.3	24	1	2
46	38	16	42.1	9	7	0
47	37	20	54.1	10	10	0
48	31	17	54.8	16	0	1
49	20	7	35.0	5	0	2
50	16	4	25.0	4	0	0
51	12	7	58.3	6	0	1
Total	284	138	48.6	80	51	7

Table 2: Total number of non-sentinel* respiratory specimens and positive results by week for the 2003/2004 season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A	Influenza B	RSV
40	8	0	0.0	0	0	0
41	20	0	0.0	0	0	0
42	14	2	14.3	2	0	0
43	30	2	6.7	2	0	1
44	48	6	12.5	6	0	0
45	103	12	11.7	12	0	2
46	72	9	12.5	9	0	4
47	86	19	22.1	18	1	5
48	106	15	14.2	12	3	9
49	96	14	14.6	7	7	18
50	106	9	8.5	9	0	26
51	69	8	11.6	6	2	23
Total	758	96	12.7	83	13	88

* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results by week for the 2003/2004 season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A	Influenza B	RSV
40	17	0	0.0	0	0	0
41	32	4	12.5	4	0	0
42	28	9	32.1	9	0	0
43	40	6	15.0	6	0	1
44	85	31	36.5	30	1	0
45	151	39	25.8	37	2	2
46	110	25	22.7	25	0	4
47	123	39	31.7	38	1	5
48	137	32	23.4	28	4	9
49	116	21	18.1	12	9	18
50	122	13	10.7	13	0	26
51	81	15	18.5	12	3	23
Total	1042	234	22.5	214	20	88

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 51 and the 2003/2004 season to date

	Week 51 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	4	2	6	102	8	110
MHB	2	0	2	9	2	11
MWHB	2	0	2	19	1	20
NEHB	1	1	2	35	3	38
NWHB	2	0	2	13	0	13
SEHB	0	0	0	17	3	20
SHB	1	0	1	10	0	10
WHB	0	0	0	9	3	12
Total	12	3	15	214	20	234

* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

Antigenic characterisation

To date this season, 8 influenza A (H3N2) samples were sequenced at the NVRL and phylogenetic analysis was carried out at Mill Hill laboratories. All 8 samples were characterized as A/Fujian/411/2002-like strains. This year some antigenic drift has been detected in the A (H3N2) strains circulating in Europe, America, Australia and New Zealand. The A/Fujian-like strains are related to the A/Panama-like strain included in the current 2003/2004 vaccine and antibodies induced against this vaccine strain cross-react with A/Fujian-like strains, but generally to a reduced level. *The current vaccine should give good protection against the virus strains in the vaccine, and it is also likely to give significant protection against the A/Fujian strain. The current vaccine is the best protection for those aged 65 years and over and in at risk groups.*

School outbreak reports

No school outbreaks were reported to NDSC during week 51. To date this season, a total of 4 school outbreaks associated with ILI have been reported to NDSC. During week 50, the mean absenteeism levels in sentinel secondary schools in the SEHB increased.

Hospital admissions data

Respiratory hospital admissions increased in a sentinel hospital in the SEHB, during week 50. Hospital data was only available from 2 health boards during week 50.

Mortality data

NDSC has been notified of a death in an 11-month-old child from the SEHB, who died during week 47 of pneumococcal meningitis and influenza A infection. This is the second death associated with influenza in Ireland reported to NDSC this season.

Influenza activity by health board/authority

Influenza activity is reported on a weekly basis from the Departments of Public Health. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed cases of influenza, and/or sentinel hospital admissions data, and/or sentinel school absenteeism data. During week 50, the ERHA reported localised influenza activity and the remaining health boards reported sporadic influenza activity (fig. 2).

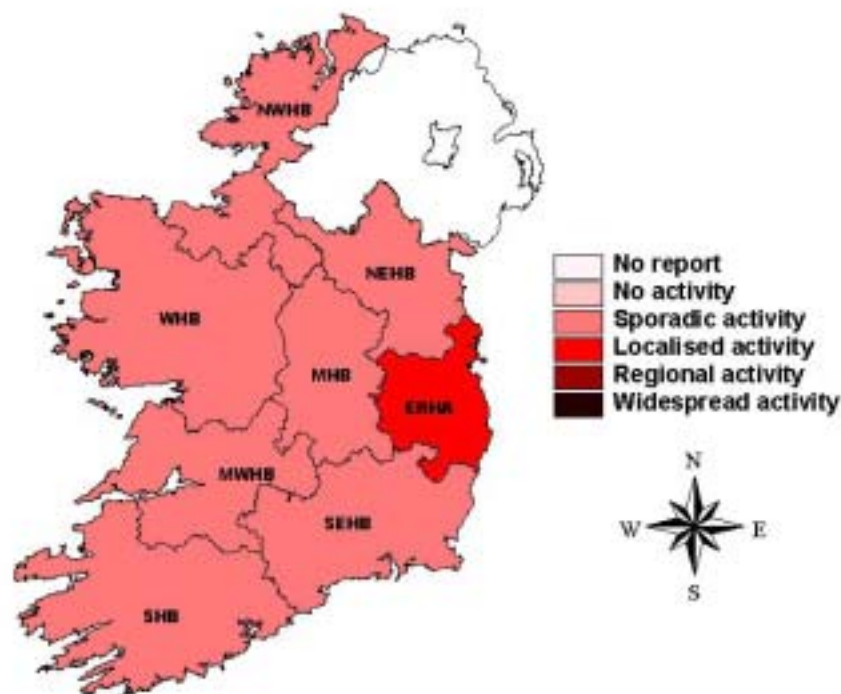


Figure 2: Map of influenza activity by health board during week 50 2003.

Influenza activity in Northern Ireland

A combined report for weeks 51 & 52 will be published during the week ending the 4th January 2004. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

Week 51 2003 data was not available at the time of publication. In England, GP consultation rates for ILI decreased from 55.0 per 100,000 in week 49 to 37.5 per 100,000 in week 50, with rates highest in the 0-4 year age group. In Scotland, the GP ILI consultation rates decreased to 59.0 per 100,000 during week 50, from 67.0 per 100,000 in week 49. In Wales, the GP consultation rates decreased to 7.9 per 100,000 in week 50. Fifty-seven influenza A (H3) viruses were confirmed by the ERNVL during week 50.

http://www.hpa.org.uk/infections/topics_az/influenza/fluactivity0304.htm

Influenza activity in Europe

Seasonal influenza activity is moving further into Europe and has taken off in most countries now. In countries where influenza activity peaked early in the season, the estimated average period of peak activity was 4 to 5 weeks (typical for influenza outbreaks). The early seasonal influenza activity that occurred in England, Northern Ireland, Portugal, Scotland, Ireland and Spain decreased during week 50. In France and Belgium, clinical activity levelled off. In most other European countries influenza activity has increased. Widespread activity was reported in Belgium, France, Norway and Switzerland. Regional activity was reported in The Netherlands, Portugal, Spain and Sweden. The rest of Europe reported localised outbreaks or sporadic activity, except for Poland, which reported no activity. In countries reporting an increased clinical incidence, increases were most prominent in children. Of the 782 influenza virus isolates (sentinel and non-sentinel) reported to the European Influenza Surveillance Scheme (EISS) in week 50, 781 were influenza A (553 were untyped, two were H1N2, and 226 were H3N2) and one was influenza B. Based on the strain characterisation data available up to week 50, 178 isolates were A/Fujian/411/2002 (H3N2)-like, 12 were A/Moscow/10/99 (H3N2)-like, 5 were A/New Caledonia/20/99 (H1N1)-like, 2 were B/Moscow/10/99-like and 2 were B/Sichuan/379/99-like (from Germany and Switzerland). RSV activity is also increasing in several European countries. <http://www.eiss.org/>

Influenza activity in Canada

During week 50, widespread influenza activity was reported in interior British Columbia and throughout Ontario. Localised or sporadic activity was reported in all other provinces and territories, except Newfoundland and Labrador. Sentinel physicians reported 52 cases of ILI per 1000 patient visits, which is within the baseline rate. Health Canada reported 691 influenza A detections during week 50. The National Microbiology Laboratory has antigenically characterised 294 influenza viruses to date; 267 (91%) A/Fujian/411/02(H3N2)-like, 25 (8.5%) A/Panama/2007/99(H3N2)-like, 1 (0.3%) A/NewCaledonia/20/99(H1N1)-like and 1 (0.3%) H1N2. To date, there have been a total of 210 outbreaks, in long term care facilities/retirement lodges, hospitals and schools, with a sharp increase in week 50 due to 23 new outbreaks reported in Ontario. British Columbia has reported two deaths in children that may be associated with influenza, however, laboratory confirmation is still pending. <http://www.hc-sc.gc.ca/pphb-dgsp/fluwatch/index.html>

Influenza activity in the United States

Influenza activity in the United States continued to increase during week 50. Thirty-six state health departments reported widespread influenza activity, 12 states and New York City reported regional activity, 1 state and the District of Columbia reported localised activity and 1 state and Puerto Rico reported sporadic activity. The proportion of patient visits to sentinel providers for ILI overall was 7.4%, which is above the national baseline. During week 50, WHO and NREVSS laboratories reported 3,814 specimens tested for influenza viruses: 262 A (H3N2), 1,080 A (unsubtyped) and 23 B viruses. The proportion of deaths attributed to pneumonia and influenza was 7.2%, which is below the epidemic threshold.

<http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

Influenza activity Worldwide

No influenza activity was reported in Madagascar during week 50. Sporadic activity was reported in India, Iceland and Chile. Very low levels of sporadic activity were reported in Hong Kong. In the Russian Federation, localised influenza activity was reported, with the number of ILI cases increasing by 23-35% among school children in Chernigiv, Vinitsa and Kiev. Widespread influenza activity was reported in Finland with children and young adults mainly affected.

<http://rhone.b3e.jussieu.fr/flunet/www/>

Northern Hemisphere influenza vaccine for the 2003/2004

On February the 28th 2003, WHO published a recommendation on the composition of influenza vaccines for use in the 2003-2004 Northern Hemisphere influenza season.

- A/New Caledonia/20/99(H1N1)-like virus
- A/Moscow/10/99(H3N2)-like virus*
- B/Hong Kong/330/2001-like virus**

*The widely used vaccine strain is A/Panama/2007/99

** Currently used vaccine strains include B/Shandong/7/97, B/Hong Kong/330/2001, B/Hong Kong/1434/2002

<http://www.emea.eu.int>

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>

Weekly influenza surveillance reports are available on the NDSC website:

<http://www.ndsc.ie/Publications/InfluenzaWeeklySurveillanceReport/>

Further information on influenza is also available on the NDSC website:

<http://www.ndsc.ie/DiseaseTopicsA-Z/InfluenzaFlu/>

Nollaig Shona agus Athbhliain faoi mhaise dhaoibh go léir!

This report was produced by Dr Lisa Domegan, NDSC